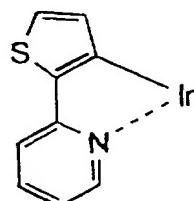


We Claim:

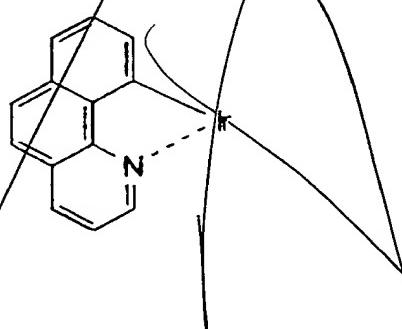
1. A light-emitting material comprising a compound having a partial structure represented by the following formulae (1) to (10), (21), (22), or tautomer thereof:

5



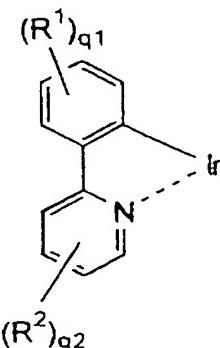
(1)

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(2)

15



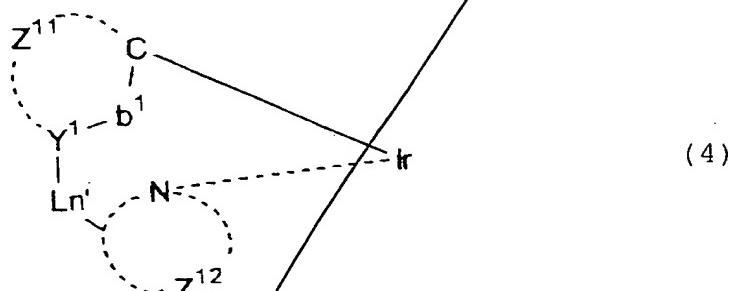
(3)

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25

wherein R^1 and R^2 each represent a substituent; and q^1 and q^2 each represent an integer of from 0 to 4, with the proviso that the sum of q^1 and q^2 is 1 or more,

5



(4)

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wherein Z^{11} and Z^{12} each represent a nonmetallic atom group required to form a 5- or 6-membered ring with at least one of carbon atom and nitrogen atom, said ring optionally having a substituent or forming a condensed ring with the other ring;
15 Ln^1 represents a divalent group; Y^1 represents a nitrogen atom or carbon atom; and b^1 represents a single bond or double bond,

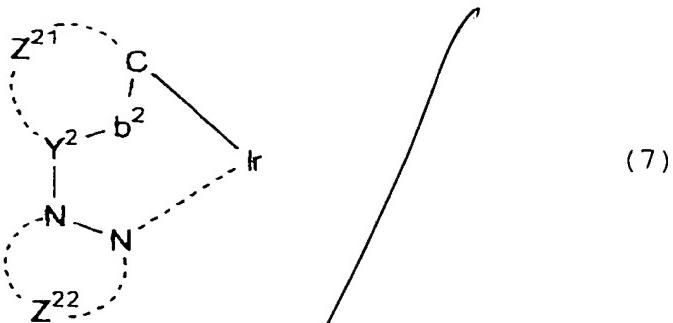
(CO) Ir

(5)

20

(NC) Ir

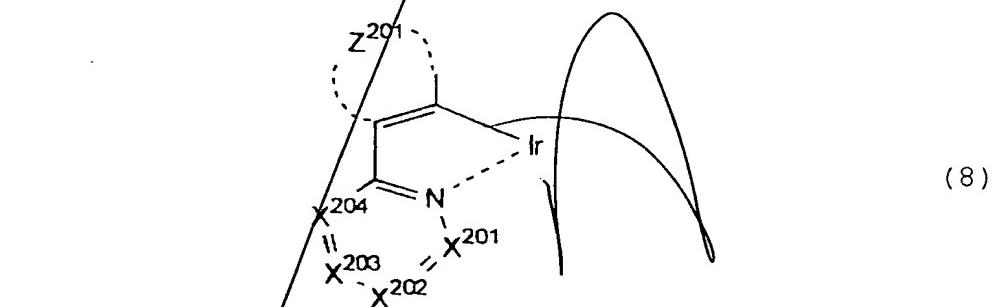
(6)



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wherein Z^{21} and Z^{22} each represent a nonmetallic atom group required to form a 5- or 6-membered ring with at least one of carbon atom and nitrogen atom, said ring optionally having a substituent or forming a condensed ring with the other ring; Y^2 represents a nitrogen atom or carbon atom; and b^2 represents a single bond or double bond,

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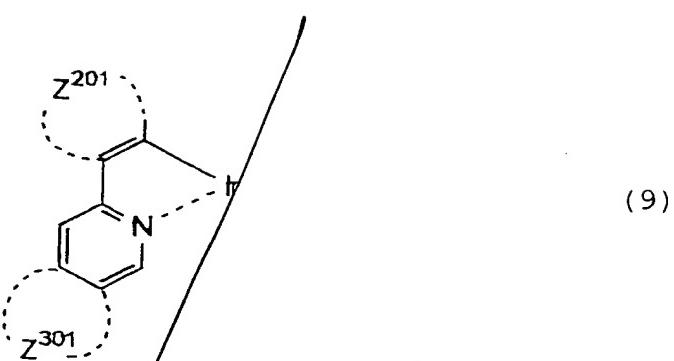
15

wherein X^{201} , X^{202} , X^{203} and X^{204} each represent a nitrogen atom or C-R and forms a nitrogen-containing heteroaryl 6-membered ring with $-C=N-$, with the proviso that at least one of X^{201} , X^{202} , X^{203} and X^{204} represents a nitrogen atom; R represents a hydrogen atom or substituent; and Z^{201} represents an atomic group for forming an aryl or heteroaryl ring,

20

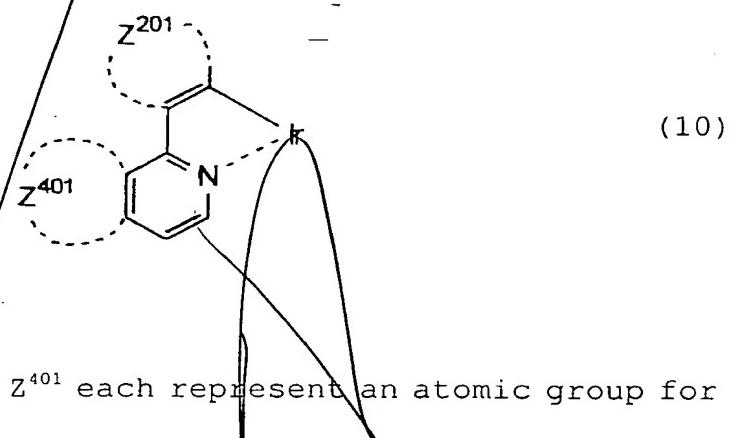
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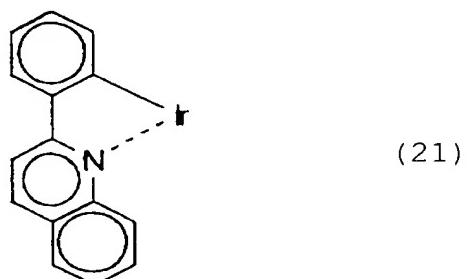
wherein Z^{201} and Z^{301} each represent an atomic group for forming an aryl or heteroaryl ring,

10



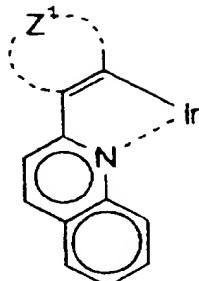
wherein Z^{201} and Z^{401} each represent an atomic group for forming an aryl or heteroaryl ring,

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25

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(22)

wherein Z^1 represents an atomic group which forms a heteroaryl ring.

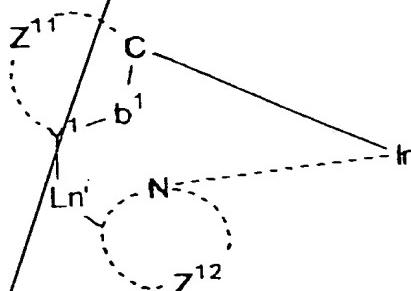
10

2. The light-emitting material according to claim 1, which comprises the compound represented by the formula (21) or (22), wherein said quinoline derivative ligand is formed by at least four rings.

15

3. A compound having a partial structure represented by the following formula (4) or a tautomer thereof:

20



(4)

25

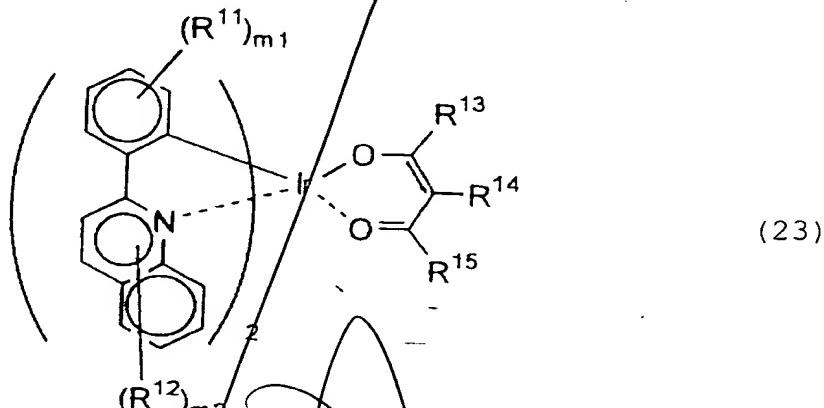
wherein Z^{11} and Z^{12} each represent a nonmetallic atom group required to form a 5- or 6-membered ring with carbon atom and/or nitrogen atom, said ring optionally having a substituent or

forming a condensed ring with the other ring; Ln^1 represents a divalent group; Y^1 represents a nitrogen atom or carbon atom; and b^1 represents a single bond or double bond.

5

4. A compound represented by the following formula (23)
or (24):

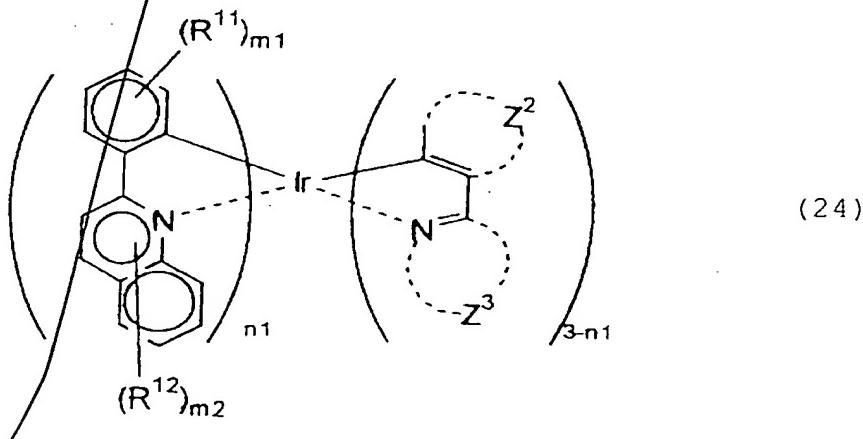
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15

wherein R^{11} and R^{12} each represent a substituent; R^{13} , R^{14} and
 R^{15} each represent a hydrogen atom or substituent; m^1 represents
an integer of from 0 to 4; and m^2 represents an integer of from
0 to 6,

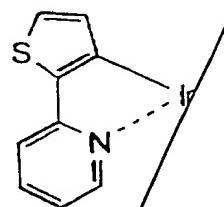
20



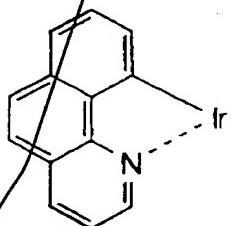
25

wherein R^{11} and R^{12} each represent a substituent; m^1 represents an integer of from 0 to 4; m^2 represents an integer of from 0 to 6; Z^2 represents an atomic group which forms an aryl or heteroaryl ring; Z^3 represents an atomic group which forms a nitrogen-containing heteroaryl ring; and n^1 represents an integer of from 1 to 3.

5. An organic light-emitting device comprising a light-emitting layer or a plurality of thin organic compound 10 layers containing a light-emitting layer formed interposed between a pair of electrodes, wherein at least one layer comprises a light-emitting material having a partial structure represented by the following formula (1) to (10), (21), (22) or a tautomer thereof:



(1)

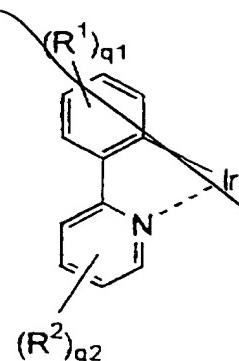


(2)

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5

(3)

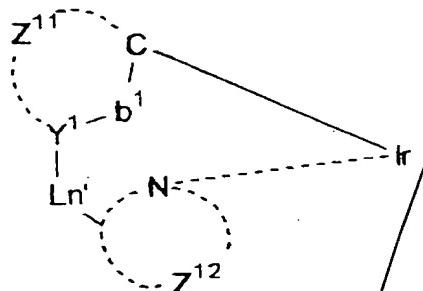


wherein R^1 and R^2 each represent a substituent; and q^1 and q^2 each represent an integer of from 0 to 4, with the proviso that the sum of q^1 and q^2 is 1 or more,

10

15

(4)



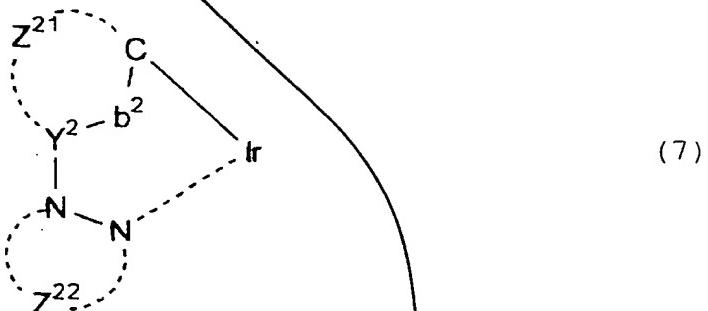
wherein Z^{11} and Z^{12} each represent a nonmetallic atom group required to form a 5- or 6-membered ring with at least one of carbon atom and nitrogen atom, said ring optionally having a substituent or forming a condensed ring with the other ring; Ln^1 represents a divalent group; Y^1 represents a nitrogen atom or carbon atom; and b^1 represents a single bond or double bond,

25

(CO) Ir (5)

(NC) Ir (6)

5

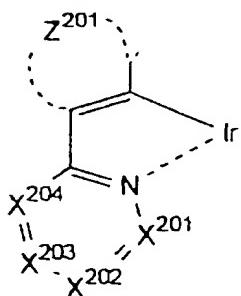


10

wherein Z^{21} and Z^{22} each represent a nonmetallic atom group required to form a 5- or 6-membered ring with at least one of carbon atom and nitrogen atom, said ring optionally having a substituent or forming a condensed ring with the other ring;

15 Y^2 represents a nitrogen atom or carbon atom; and b^2 represents a single bond or double bond,

20

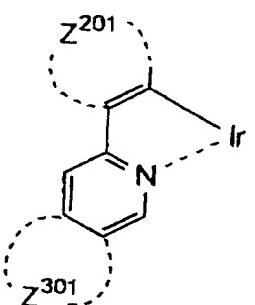


(8)

wherein X^{201} , X^{202} , X^{203} and X^{204} each represent a nitrogen atom or C-R and forms a nitrogen-containing heteroaryl 6-membered

ring with $-C=N-$, with the proviso that at least one of X^{201} , X^{202} , X^{203} and X^{204} represents a nitrogen atom; R represents a hydrogen atom or substituent; and Z^{201} represents an atomic group for forming an aryl or heteroaryl ring,

5

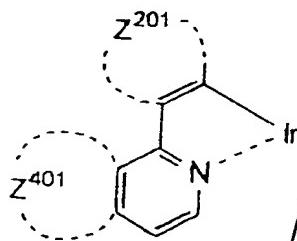


(9)

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wherein Z^{201} and Z^{301} each represent an atomic group for forming an aryl or heteroaryl ring,

15

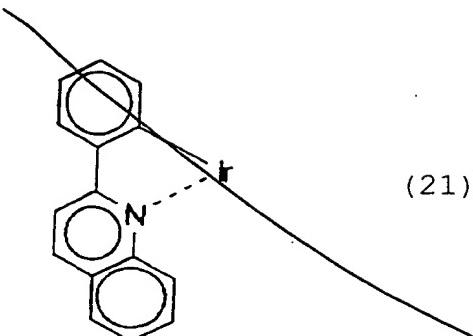


(10)

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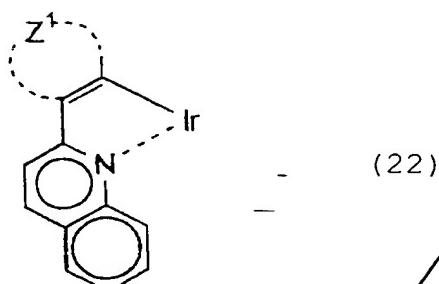
wherein Z^{201} and Z^{401} each represent an atomic group for forming an aryl or heteroaryl ring,

5



(21)

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(22)

15 wherein Z¹ represents an atomic group which forms a heteroaryl ring.

6. An organic light-emitting device according to claim
5, wherein at least one layer consists essentially of the
20 light-emitting material.

7. The light-emitting device according to claim 5,
wherein said layer comprising the light-emitting material is
formed by a coating process.

25

8. An organic light-emitting device comprising a light-emitting layer or a plurality of thin organic compound layers containing a light-emitting layer formed interposed between a pair of electrodes, wherein at least one layer 5 contains an orthometalated iridium complex, and said layer containing an orthometalated iridium complex is formed by a coating process.

See fig. 2 of spec

9. An organic light-emitting device having an external 10 quantum efficiency of 5% or more, and a λ_{max} of light emitting of 590 nm or more.

PPN 27